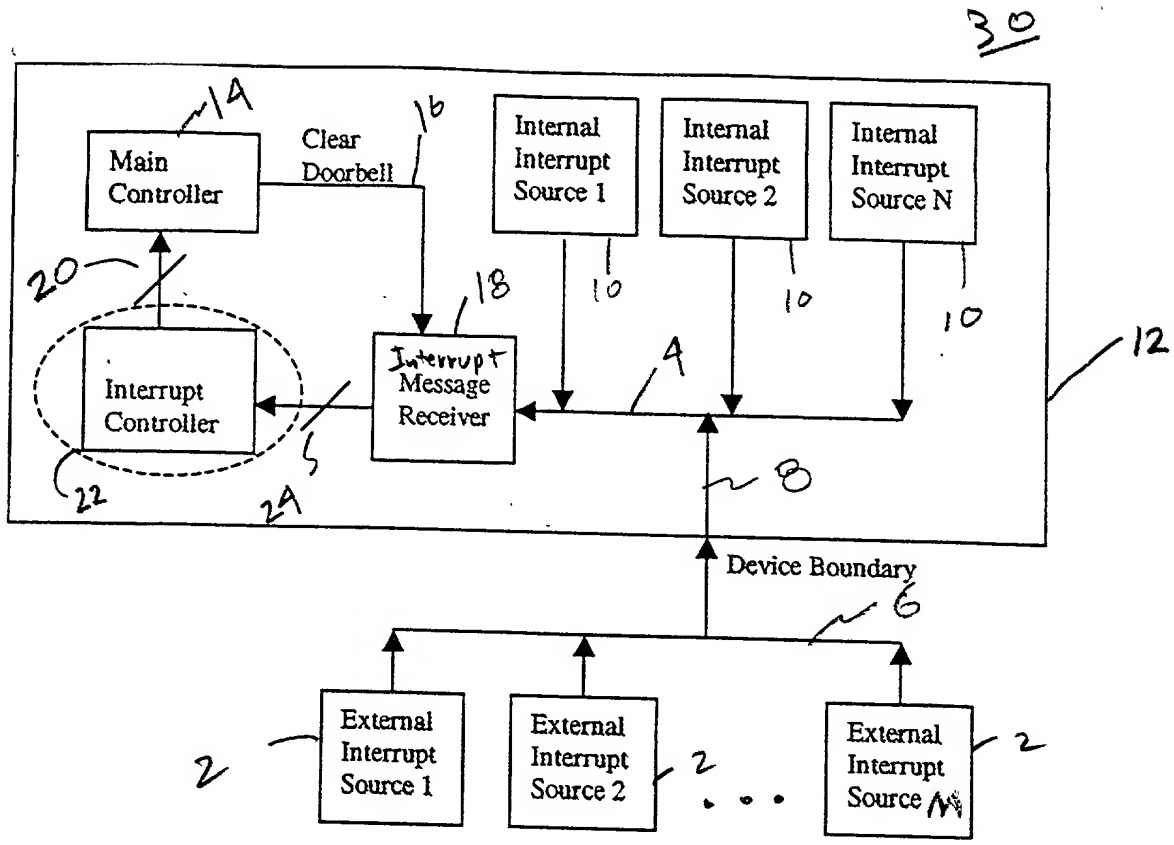
30
14
Main Controller
Clear Doorbell
16
Internal Interrupt Source 1
Internal Interrupt Source 2
Internal Interrupt Source N
10
10
10
12
20
18
Interrupt Message Receiver
4
Interrupt Controller
22
24
8
Device Boundary
6
2
External Interrupt Source 1
External Interrupt Source 2
2
External Interrupt Source N
2

Figure 1

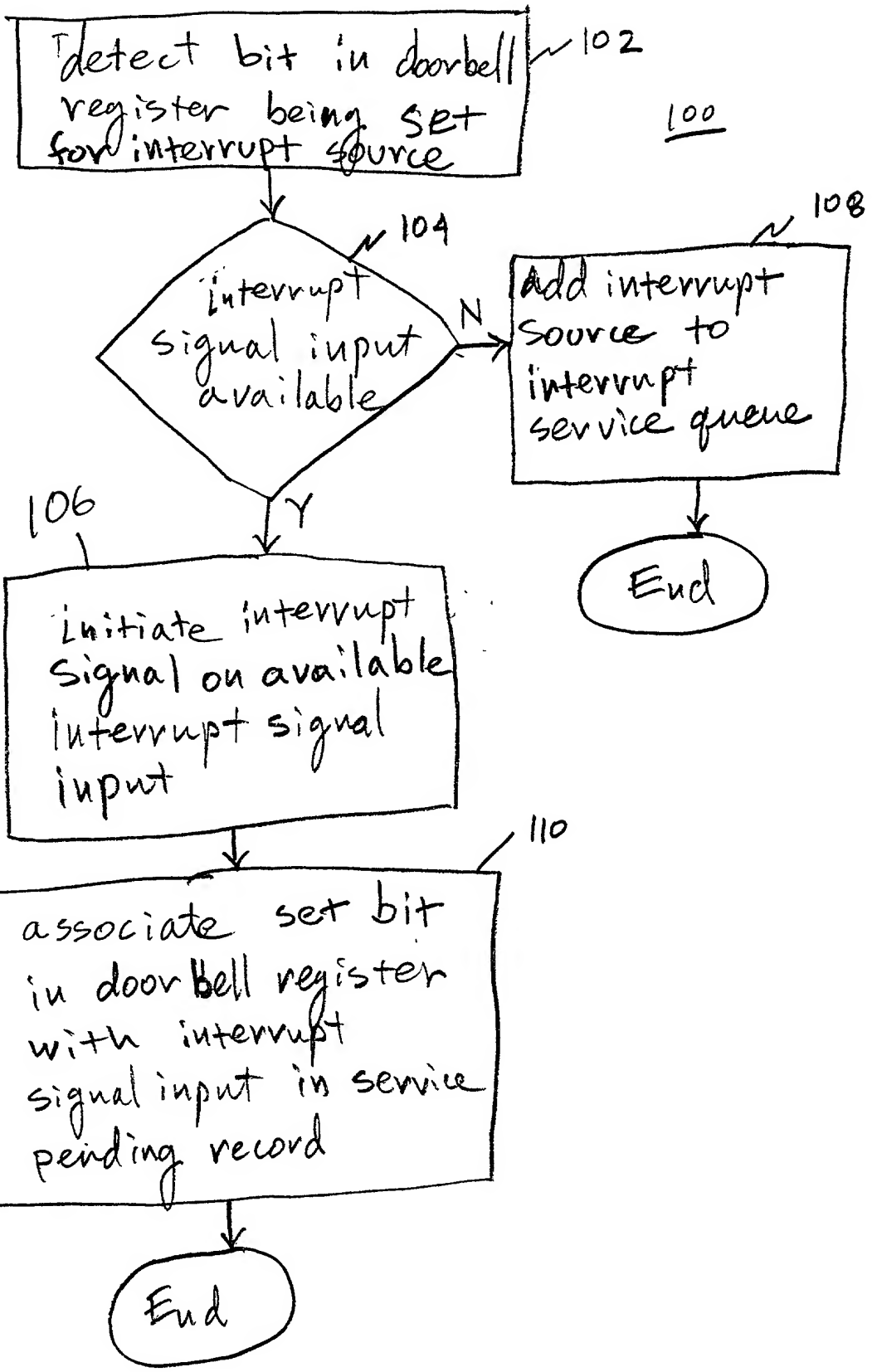
detect bit in doorbell register being set for interrupt source
102
100
interrupt signal input available
104
N
Y
Add interrupt source to interrupt service queue
108
End
106
Initiate interrupt Signal on available interrupt signal input
associate set bit in doorbell register with interrupt signal input in service pending record
110
End

Figure 2

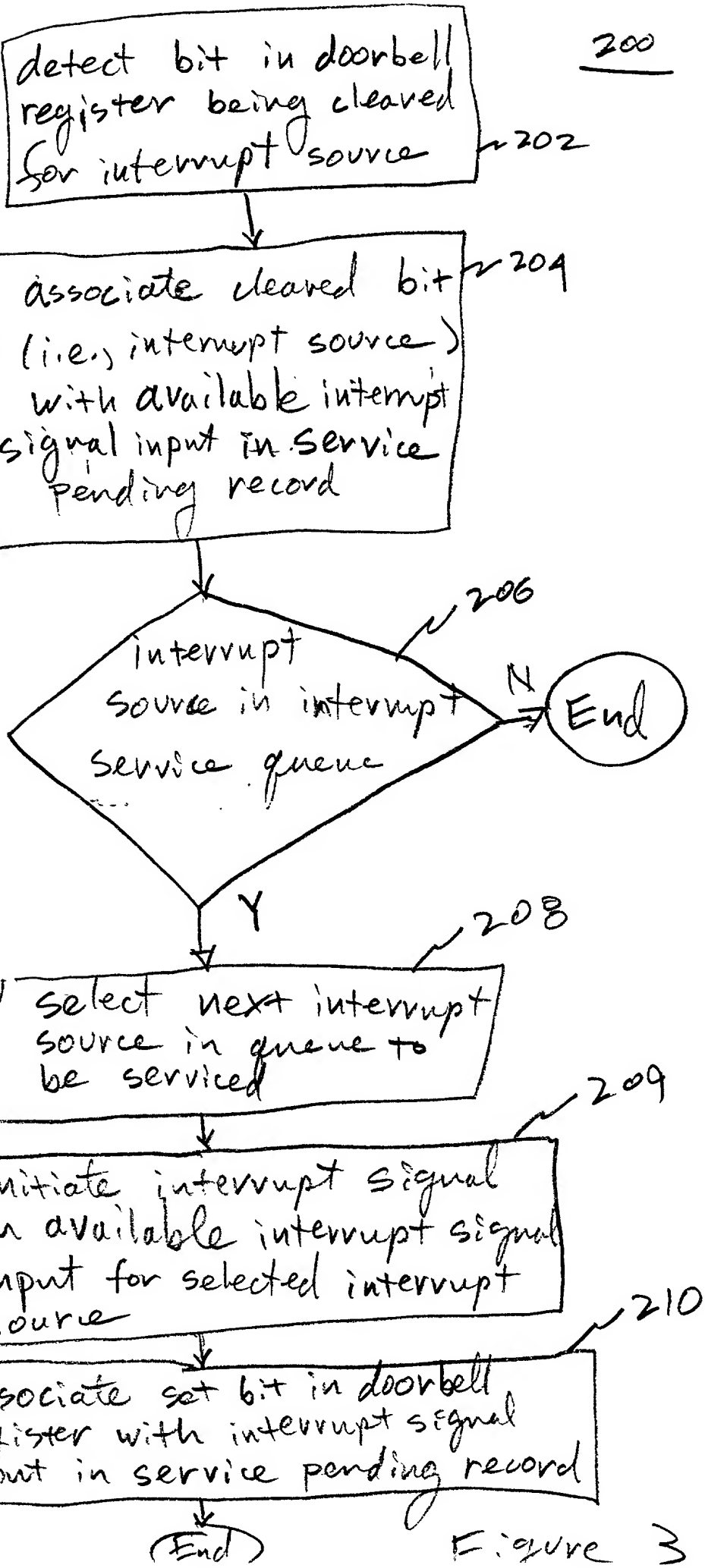
200
detect bit in doorbell register being cleared for interrupt source
202
associate cleared bit (i.e., interrupt source) with available interrupt signal input in service pending record
204
interrupt source in interrupt service queue
206
N
End
Y
select next interrupt source in queue to be serviced
208
initiate interrupt signal on available interrupt signal input for selected interrupt source
209
associate set bit in doorbell register with interrupt signal input in service pending record
210
End

Figure 3